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SKETCHES OF THE HISTORY OF SCIENCE.

NO. III.

ITS MODERN CREATION AND PROGRESS.

THE three sciences, Astronomy, Chemistry, and Geology, may be said to involve nearly all the intellectual art of man—to be interwoven with the minutest of his daily occupations, and associated with the sublimest of his ideas. Astronomy, at first sight, appears a grand but a speculative science—dealing with the remote and unapproachable, and but little connected with the daily work and wants of the human race; yet, when we come to look at it, we find it daily applying mathematics and mechanics to the pursuits and purposes by which individuals earn their bread, and nations attain their power; building our ships, guiding them in safety across the trackless ocean, aiding the pen of history, by accurately setting down the “times and the seasons,” and stimulating the most ingenious of the arts, by requiring instruments, whose construction involves the profoundest thought and the most delicate skill; and thus theoretically and practically doing more for the civilisation and positive benefit of society than poetry, painting, and sculpture combined. Chemistry does not excite the mind, like astronomy; its field of investigation lies somewhat nearer to us, and its objects are apparently more familiar and confined: yet nearly all the comfort of our social life, almost all our manufacturing skill and power, and much of our intellectual progress, have resulted from its discoveries. Geology, the youngest of the three, and still in its infancy, is doubtless destined to approach astronomy in the practical nature of its results, as it already does in the vastness of its associations. Our discoveries in the crust of the earth are acting on the human intellect with a power rivaling the effect of Galileo’s, when he first pointed the telescope to the sky; they have already enlarged the boundaries of our universe, and after the wonder has subsided, and we become familiarised with the subject, the investigation will be pursued with a more direct view to practical objects, as in fact it is already; and out of our more familiar knowledge may grow a great increase to the power and comfort of society.

But between three and four hundred years ago, neither Astronomy nor Chemistry—far less Geology—could be said to exist.

The facts both of Astronomy and Chemistry had, indeed, been eagerly searched after, and many had been accumulated: but while the common mind reposed implicit faith in the manifold and monstrous productions of superstition, the more learned believed in Astrology and Alchemy; studied the stars in the vain idea that a knowledge of them gave a prophetic power over the destinies of individuals; and searched into the nature of substances, in the exciting hope that they might discover the means of transmuting baser into precious metals, or discover some wonderful liquid by which mortal man might be made immortal. Few, indeed, were the truly practical philosophers, the men who studied nature, in the hope of discovering truth; and even these, when they did get glimpses of truth, had to proceed cautiously in its promulgation, or else brave the dangers of offending dogmatism and power.

VOL. III.

Amongst the cautious philosophers, we may undoubtedly rank Nicolaus Copernicus, commonly considered, and, on the whole, truly, as the parent of modern Astronomy. He was born at Thorn, in Prussia, about 1473; was educated for the church, and became an ecclesiastic; but being an excellent mathematician, and a profound thinker, he spent a large portion of his time in the study of natural science. He had been long struck by the complexity of the Ptolemaic system, which placed the earth at rest, and sent all the heavenly bodies spinning in various directions round about it; and searching among ancient authors for something more simple and natural, he found that an opinion had been entertained that the earth moved. Proceeding on this, he gradually worked out for himself the doctrine of the annual and diurnal motion of the earth, and thus, a century before the invention of telescopes, caught the leading idea of the true system of the universe. His astronomy was interwoven with much error, which modern research has rectified: still he laid the foundation of the noblest of the sciences; his successors carried on the work; and Newton supplied the keystone.

Though Copernicus experienced opposition and ridicule, he passed, on the whole, through life very quietly; for he promulgated his opinions with caution, and only committed them to the press a very short time before his death. But though the book was in Latin, and by its very nature addressed only to the few who could understand its reasonings, it could not remain unfruitful, when committed to the keeping of the press. Quietly as his own life had been spent, it was passed (1473–1543) during a period of wonderful activity and excitement.

“It was,” says Guizot, speaking of the 15th century, “a period of voyages, travels, enterprises, discoveries, and inventions of every kind. It was the time of the Portuguese expeditions along the coasts of Africa; of the discovery of the new passage to India by the Cape of Good Hope, by Vasco de Gama; of the discovery of America, by Christopher Columbus; of the wonderful extension of European commerce. A thousand new inventions started up; others already known, but confined within a narrow sphere, became popular and in general use. Gunpowder changed the system of war; the compass changed the system of navigation. Painting in oil was invented, and filled Europe with masterpieces of art. Engraving on copper, invented in 1406, multiplied and diffused them. Paper made of linen became common. Finally, between 1436 and 1452 was invented printing—printing, the theme of so many declamations and common-places, but to whose merits and effects no common-places or declamations will ever be able to do justice.”

Three years after the death of Copernicus, Tycho Brahé was born—an astronomer, who, while he opposed the system of Copernicus, did much to pave the way for its reception. With him was associated, as assistant, companion, and friend, John Kepler, whose discoveries place him as the connecting link between Copernicus and Newton; and he, again, was the contemporary of Bacon and Galileo—the two men who headed the revolution of science.

Galileo Galilei, known to us by his Christian name, was born a few years earlier than Kepler, at Pisa, in Tuscany, in 1564. Very

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early in life he gave indications of what he would become; and as he advanced in years, became not only celebrated but notorious, as one of the most active and daring of those philosophers who were imbibing the new doctrines, and promulgating them by their eloquence. It would require a large space barely to state what Galileo did for science; we shall therefore, at present, merely point to his application of the telescope to the uses of astronomy, by which he may be almost said, along with his other invention of the microscope, to have given a new sense to the human race.

"The year 1609, the same in which Kepler's Commentary on Mars appeared, is also for ever memorable from Galileo's invention of the telescope. This, indeed, is, in the minds of many, the sole important discovery associated with his name; whilst, again, other writers have contended that it adds but little to his reputation. Without disparaging his other exalted merits, we, however, regard this as constituting one of his fairest claims to that immortality of fame with which he has been so justly invested." "The principle of the telescope and the microscope are, to a mathematical optician, one and the same. The telescope is merely made to collect parallel rays from distant objects; the microscope, diverging rays from near objects. The latter invention, therefore, could hardly fail to follow immediately upon the former. Galileo constructed microscopes in 1612; but he did not dwell upon the invention, his thoughts being now wholly absorbed on the perfection of the telescope, and the glorious field of astronomical discovery which was open to him.

"Being at Venice, his house was thronged with visitors, who came to satisfy themselves of the truth of the wonderful stories they had heard of his invention. The doge suggested that a telescope would be an acceptable present to the state. Galileo took the hint, and was in turn confirmed for life in his professorship at Padua, and his stipend doubled. The public curiosity on the subject was excited to the highest pitch. Sirturi, who had made one of these instruments, attempting to try its powers from the top of the tower of St. Mark's, in Venice, was soon observed by the crowd, who detained him for hours to satisfy their curiosity in looking through his telescope. Instruments of an inferior sort were now made everywhere, and spread rapidly over Europe; but the manufacture of the superior kind was confined almost solely to Galileo, and those whom he instructed.

"Now that the telescopic appearance of the heavens is so familiarly known, it is hardly possible for us to conceive the intense interest with which the first glimpse of it must have been obtained. The multiplicity of the brilliant objects calling for examination, the undefined expectation of what might be revealed in them by the powers of an instrument yet untried, and the probability of numerous additions to the list of those bodies which had as yet come under the cognizance of man—these, and the host of kindred emotions which must have been excited on such an occasion, are more readily imagined than described; and they must have united to give an overwhelming impulse to the progress of discovery.

"Galileo, having sufficiently improved upon his instrument, now began assiduously to direct it to the heavens. The moon naturally formed the first object of his attention; and we cannot fail to recognise the original of our great poet's picture, since we know he had the opportunity of painting it from the life:—

"——— the moon, whose orb
Through optic glass the Tuscan artist views
At evening, from the top of Fesole,
Or in Valdarno, to decry new lands,
Rivers, or mountains, in her spotty globe."

Par. Lost, l. 556.

"Jupiter formed the next object of examination; and no sooner was the telescope pointed to that planet than the existence of the satellites was detected, and their nature soon ascertained (February 1610). These and other observations were described by Galileo in a tract, which excited an extraordinary sensation the moment it appeared. Many positively denied the possibility

of such discoveries; others hesitated; all were struck with astonishment. Kepler describes, in a letter to Galileo, the impression made on him by the announcement. He considered it totally incredible; nevertheless, his respect for the authority of Galileo was so great, that it set his brain afloat on an ocean of conjectures to discover how such a result could coincide with the then supposed order of the celestial orbits. Sizzi argued seriously with Galileo that the appearance must be fallacious, since it would invalidate the perfection of the number 7, which applies to the planets, as well as throughout all things natural and divine. Moreover, these satellites are invisible to the naked eye; therefore they can exercise no influence on the earth; therefore they are useless; *therefore they do not exist.* Others took a more decided, but not less rational, mode of meeting the difficulty. The principal professor of philosophy at Padua pertinaciously refused to look through the telescope. Another pointedly observed, that we are not to suppose that Jupiter has four satellites given him for the purpose of immortalising the Medici (Galileo having called them the Medicean stars). A German named Horky suggested that the telescope, though accurate for terrestrial objects, was not true for the sky. He published a treatise, discussing the four new planets (as they were called), what they are? why they are? and what they are like? concluding with attributing their alleged existence to Galileo's thirst for gold *."

But artillery far more formidable than stupidity, obstinacy, or ridicule, began to be pointed towards the new philosophy. After the death of Copernicus, his opinions began slowly to make way; and as we draw near to the time of Galileo, facts were found to be accumulating in favour of the doctrine of the motion of the earth. Various arguments, drawn from natural appearances, were used against it; and then, as the force of these failed, the Bible was resorted to. Every text which either directly or impliedly spoke of the movements of the sun and moon, and of the fixedness of the earth, was dragged into discussion; and those who ventured to adopt the new philosophy, had also to face the terrible stigma of heresy. The controversy raged with great violence in the time of Galileo: for his discoveries and his eloquence were the means of diffusing the new doctrines over Europe. The bigots were furious, and the timid were afraid; it seemed as if the existing framework of religion were about to be violently overthrown. At last, at the age of seventy, the old man, Galileo, had to go to Rome, and professedly abjure the philosophy which his brilliant lifetime had been spent in establishing and illustrating. It is supposed that he was put to the torture, to compel his assent. The chief portions of his abjuration were:—"1st. The proposition that the sun is the centre of the world, and immovable from its place, is absurd—philosophically false—and formally heretical; because it is expressly contrary to Holy Scripture. 2nd. The proposition that the earth is not the centre of the world, nor immovable, but that it moves, and also with a diurnal motion, is absurd—philosophically false—and, theologically considered, at least erroneous in faith." "With a sincere heart and unfeigned faith, I abjure, curse, and detest the said errors and heresies;" and yet he is commonly said, on rising from his knees, after the solemnity, to have whispered to a friend, "It moves, for all that!" Now-a-days, it is believed that not merely the sun has a rotary motion, and that the planets revolve round it, but that the entire solar system—sun, planets, and all—is moving onwards through space; and anybody may entertain this idea without any imputation of infidelity. And yet many people who may be quite willing to entertain this most stupendous notion, shrink from entertaining the fact of the existence of the earth before the

* Historical View of the Progress of the Physical and Mathematical Sciences, from the earliest ages to the present times, by Baden Powell, Savilian Professor of Geometry in the University of Oxford. Larner's Cabinet Cyclopædia.

days of Adam, because they are afraid it may be "contrary to faith."

It was just as easy to stop the motion of the earth, as to stop the progress of science by a forced abjuration from one of its great expounders. Galileo became blind six years before his death (he died in 1642); but his contemporaries, friends, and pupils, were too numerous, too active, and too powerful, not to carry on his great work. From the time of Bacon and Galileo to that of Newton and his contemporaries, extraordinary activity prevailed, and a race of giants sprang up, who seemed determined to scale the heavens.

"An immense impulse," says Sir John Herschel, "was now given to science, and it seemed as if the genius of mankind, long pent up, had at length rushed eagerly upon Nature, and commenced, with one accord, the great work of turning up her hitherto unbroken soil, and exposing the treasures so long concealed. A general sense now prevailed of the poverty and insufficiency of existing knowledge in *matters of fact*; and, as information flowed fast in, an era of excitement and wonder commenced, to which the annals of mankind had furnished nothing similar. It seemed, too, as if Nature herself seconded the impulse; and, while she supplied new and extraordinary aids to those senses which were henceforth to be exercised in her investigation—while the telescope and the microscope laid open the *infinite* in both directions—as if to call attention to her wonders, and signalise the epoch, she displayed the rarest, the most splendid, and mysterious, of all astronomical phenomena, the appearance and subsequent total extinction of a new and brilliant star twice within the lifetime of Galileo himself.

"The immediate followers of Bacon and Galileo ransacked all Nature for new and surprising facts, with something of that craving for the marvellous which might be regarded as a remnant of the age of alchemy and natural magic, but which, under proper regulation, is a most powerful and useful stimulus to experimental inquiry. Boyle, in particular, seemed animated by an enthusiasm of ardour, which hurried him from subject to subject, and from experiment to experiment, without a moment's intermission, and with a sort of undisturbing appetite; while Hooke (the great contemporary, and almost the worthy rival, of Newton) carried a keener eye of scrutinising reason into a range of research even yet more extensive. As facts multiplied, leading phenomena became prominent, laws began to emerge, and generalization to commence; and so rapid was the career of discovery, so signal the triumph of the inductive philosophy, that a single generation and the efforts of a single mind sufficed for the establishment of the system of the universe, on a basis never after to be shaken."

This "single mind," we need hardly add, was that of Newton's—

"Nature and Nature's laws lay hid in night,
God said, Let Newton be,—and all was light."

These felicitous lines of Pope's may, however, be apt to lead the young reader astray, by making him think that nothing was known of the true system of the universe before the time of Newton, and that nothing has been added since. But we shall have other opportunities for recurring to this subject.

BONAPARTE'S WOUNDS.

NAPOLEON showed me the marks of two wounds—one a very deep cicatrice above the left knee, which he said he had received in his first campaign of Italy, and it was of so serious a nature, that the surgeons were in doubt whether it might not be ultimately necessary to amputate. He observed, that when he was wounded it was always kept a secret, in order not to discourage the soldiers. The other was on the toe, and had been received at Eckmühl. "At the siege of Acre," continued he, "a shell thrown by Sidney Smith fell at my feet. Two soldiers, who were close by, seized, and closely embraced me, one in front and the other on one side, and made a rampart of their bodies for me against the effect of the shell, which exploded, and overwhelmed us with sand. We sunk

into the hole formed by its bursting; one of them was wounded. I made them both officers. One has since lost a leg at Moscow, and commanded at Vincennes when I left Paris. When he was summoned by the Russians, he replied, that as soon as they sent him back the leg he had lost at Moscow, he would surrender the fortress. Many times in my life," continued he, "have I been saved by soldiers and officers throwing themselves before me when I was in the most imminent danger. At Arcola, when I was advancing, Colonel Meuron, my aid-de-camp, threw himself before me, covered me with his body, and received the wound which was destined for me. He fell at my feet, and his blood spouted up in my face. He gave his life to preserve mine. Never yet, I believe, has there been such devotion shown by soldiers as mine have manifested for me. In all my misfortunes, never has the soldier, even when expiring, been wanting to me—never has man been served more faithfully by his troops. With the last drop of blood gushing out of their veins, they exclaimed 'Vive l'Empereur!'"
—From "*A Voice from St. Helena*."

THE NORTH AMERICAN INDIANS.

NO. II.

CHARACTER, ORIGIN, SUPERSTITIONS, AND ANTIQUITIES.

THE character of the North American Indian has been alternately the theme of undeserved censure and panegyric. On the one hand, he has been described as cruel, blood-thirsty, and treacherous; on the other, he is painted as adorned by all the virtues of the ancient heroes—patient of suffering, despising all luxuries, of indomitable courage, and possessing the most exalted magnanimity. The "noble savage" has been held up by poets and orators as the very *beau ideal* of man in what is strangely called his "natural state;" and all the adornments, comforts, and elegances of civilisation represented as so many gaudy trappings disfiguring the beautiful simplicity of savage liberty. A more intimate acquaintance with the realities of life in a wigwam, shows that both the estimates we have mentioned are very wide of the truth.

There is,—or we should perhaps now say, was—in fact, much difference in the characteristics of the various tribes, principally occasioned by the difference in their modes of life. The inhabitant of Nootka Sound, whose chief sustenance is fish uncertainly obtained, and whose limbs are cramped in his canoe, differs so much from the young Mohawk, whose figure is so graceful and well proportioned, that the great painter West compared the matchless statue of the Apollo Belvidere to a young warrior of that tribe, as almost to enforce the belief that he is of a distinct race, until a closer examination dissipates the error. The main distinction of character, however, seems to be that between the Indian of the Forest, now almost extinct, and the Indian of the Prairies. The comparatively solitary life of the former; the silent majesty of the vast and gloomy woods through which the hunter tracked his way, with no company but his own thoughts; produced that dignified gravity of demeanour, and that taciturnity in society, which have been regarded as the peculiar attributes of the Indian; while the more cheerful aspect of the wide-spread prairie, and (since the introduction of the horse) the joyous excitement always produced in the mind when bounding over the plain, upborne by that noble animal, renders the Prairie Indian less reserved in his manners, and give him a more joyous, and perhaps less reflective, temperament, than that of his brother, the dweller in the dark pine-forest.

Although the Indian character may not deserve all the high-flown praise that has sometimes been lavished upon it by enthusiastic writers, who would fain elevate the untutored man into the discriminating philosopher, there are yet many points in it of very great excellence. It has been so well described by Dr. Godman,

(whose name must be familiar to our readers,) that we prefer using his words to attempting a delineation ourselves.

"To estimate the moral character of the Indians correctly, our inferences must be drawn from tribes undebased by their proximity to the whites, or from periods which preceded the introduction of European vices and corruptions amongst them. Born and nurtured in the most uncontrolled liberty, the restraints of civilised life have as yet only served to bring the Indian still lower than the quadruped tenants of the forest that have been subdued by the white man. Instead of displaying the energies of nature, improved by cultivation, the civilised aboriginal has sunk into a state of hopeless apathy, incapable of anything better than an imitation of the worst vices of the worst of men.

"But when free, in his native wilds, the American displayed a form worthy of admiration, and a conduct which secured him respect. Brave, hospitable, honest, and confiding, to him danger had no terrors; and his house was ever open to the stranger. Taught to regard glory as the highest reward of his actions, he became a stoic under suffering, and so far subjugated his feelings as to stifle the emotions of his soul, allowing no outward sign of their workings to be perceived. His friendships were steadfast, and his promises securely kept; his anger was dreadful; his revenge, though often long cherished, was as horrible as it was sure; necessity and pride taught him patience, habitual exercise made him vigilant and skilful; his youth was principally spent in listening to the recital of his father's and ancestors' renown, and his manhood was passed in endeavouring to leave for his children an inducement to follow his example.

"Grave, dignified, and taciturn, under ordinary circumstances, in the assembly of his nation the Indian frequently became fluent, impassioned, eloquent, sublime. With few words, and no artificial aid, drawing his images exclusively from surrounding objects, and yielding to the influence of his own ardent impulses, he roused his friends to enthusiasm, or inspired his enemies with dread, as he depicted with few and rapid touches the terrors of his vengeance, or the horrible carnage of his battles.

"An Indian suffering with hunger complained not, nor, when long absent from home, expressed emotion on his return. 'I am come,' would be his simple salutation; 'It is well,' the only reply. When refreshed by eating and smoking, he related the story of his enterprise to his assembled friends, who listened in respectful silence, or only testified their interest in his narrative by a single ejaculation.

"The Indians almost universally revere the aged, and are exceedingly indulgent to their offspring, whom they rarely chastise, unless by casting cold water on them. They are not so kind to their women, who, as a general rule, are treated rather as domestic animals than as companions, and are seldom exempted from severe toils, even when about to give birth to their children. Notwithstanding this, the women appear contented with their situation, and not unfrequently exhibit excellent traits of character. At times their jealousy, or other depressing passions, lead them to the commission of suicide, which is particularly frequent among some of the tribes. Indian habits of thinking, varying with their modes of education, differ very much in different nations. The want of chastity before marriage is not universally considered as a loss of character; neither is incontinence in the female after marriage regarded as a crime, provided the husband gives his consent; yet the same people will treat as infamous, and even put to an ignominious death, a woman who receives the addresses of another man without the permission of the husband. The number of wives

taken by the men is most commonly limited only by their ability to maintain them, as almost all Indians are polygamous*. Their wandering modes of living and precarious subsistence render increase of population far inferior among them to what it is among the whites.

"The most universal and enduring passion among the Indians is that for warlike glory. The earliest language he hears is the warrior's praise—the first actions he is taught to perform have for object the eventual attainment of this distinction; and every thought is bent towards the achievement of heroic deeds. Hence death is despised, suffering endured, and danger courted; the song of war is more musical in his ear than the voice of love; and the yells of the returning warrior thrill his bosom with pleasing anticipations of the time when he shall leave blood and ashes where the dwelling of his enemy stood, and hear the triumphant shouts of his kinsmen, responsive to his own returning war-cry."

This is a fair and unprejudiced view of Indian character, giving promise of all good where rightly directed, led in the narrow path, —but if driven, most sure to turn astray.

The government which regulates the affairs of an Indian tribe (for although several tribes occasionally join together for mutual defence, they never hold themselves bound by the determination of the ostensible chief of the confederation,) is vested entirely, in time of peace, in the Sachems, who are hereditary chiefs or leading men. They do not, however, possess any power beyond that influence attached to their station, which is entirely voluntary on the part of the tribe; and when a war is on the tapis, they possess still less power, as then the war-chiefs—men who have distinguished themselves by exploits in war or hunting, and are in consequence chosen as leaders on the war-path,—are more regarded. A very singular law of succession is in use among the Mohawks, who acknowledge the hereditary authority of one superior Sachem, whose office approaches very nearly to that of a limited monarch; for his actions are controlled by the decision of the general council of the other chiefs. The inheritance descends through the female line exclusively. Consequently, the superior chieftainship does not descend to the eldest male; but the eldest female in what may be called the royal line nominates one of her sons, or other chief descendants, and he thereby becomes the chief. If her choice does not fall upon her own son, the grandson whom she invests with the office must be the child of her daughter †.

It is remarkable that the same peculiar rule of succession is observed in one of the Malay tribes, the Menang Kabowes; a people who in other respects have many points of resemblance with the American Indians and the Polynesian tribes. The requisite allowances being made for the influence of climate, and the mode in which the necessities of life are acquired, there is no difficulty in acceding to the theory now generally received, that all these nations derive their origin from the same source, and that the plains of Asia cradled the progenitors of the appointed inhabitants of the uttermost ends of the earth. Confining ourselves for the present to the North Americans, we shall transcribe from Pennant's Introduction to the Arctic Zoology some of the more remarkable resemblances between the inhabitants of Eastern Asia and the American Indian, sufficient, in our view, to support the belief that they are immediately derived from that quarter of the more early-peopled portion of the globe.

"The custom of scalping," says he, "was a barbarism in use with the Scythians, who carried about them at all times this savage mark of triumph: they cut a circle round the neck, and stripped

* Unnatural as a state of society permitting such a custom appears, it yet prevailed at Rome, even when far advanced in civilisation. We may here notice that the Indian women, notwithstanding the severity of their labours, enjoy a much greater degree of consideration than even Dr. Godman appears to have been aware of. They not unfrequently interfere in the affairs of the tribe. Mr. Stone says, "It may be doubted whether the females of the white people, even among nations of the most refinement, exercise a higher or more salutary degree of influence than do the Indian women. Nor, when dead, are they treated with less respect than the warriors."

* One of the finest traits of Indian character—one never yet violated even among those most corrupted by communication with unprincipled whites—is, that the honour of their female prisoners has been invariably held sacred.

† Stone's Life of Brant.

off the skin as they would that of an ox *. A little image found among the Kalmucks, of a Tartarian deity, mounted on a horse, and sitting on a human skin, with scalps pendant from the breast, fully illustrates the custom of the Scythian progenitors as described by the Greek historian. This usage, as the Europeans know by horrid experience, is continued to this day in America. The ferocity of the Scythians to their prisoners extended to the remotest part of Asia. The Kamtschadales, even at the time of their discovery by the Russians, put their prisoners to death by the most lingering and excruciating inventions; a practice in full force to this very day among the aboriginal Americans. The Scythians were styled Anthropophagi, from their feeding on human flesh. The people of Nootka Sound still make a repast of their fellow-creatures; but what is more wonderful, the savage allies of the British army have been known to throw the mangled limbs of the French prisoners into the horrible cauldron, and devour them with the same relish as those of a quadruped †.

"The Scythians were said for a certain time annually to transform themselves into wolves, and again to resume the human shape. Many of the American nations disguise themselves in dresses made of the skins of wolves and other wild beasts, and wear even the heads fitted to their own. These habits they use to circumvent the animals of the field; but would not ignorance or superstition ascribe to a supernatural metamorphosis these temporary expedients to deceive the brute creation? In their march, the Kamtschadales never went abreast, but followed one another in the same track. The same custom is exactly followed by the Americans."

Mr. Pennant further remarks, that tattooing, although not practised by all the American tribes, is yet found among some of them, and is customary with the Tungusi, the most numerous nation resident in Siberia. That enterprising traveller Ledyard ‡, who was well acquainted with the Indians from personal observation, expressed a decided opinion that they were identical with the Tartar tribes; among whom he particularly traced the use of the Indian ornament of wampum, or strings of shells, applied to the adornment of the dress, and also, in certain forms, as a token or memento of the subject of a speech, or a treaty, when matters of importance have been discussed.

"In respect to the features and form of the human body," says Mr. Pennant, "almost every tribe found along the western coast has some similitude to the Tartar nations, and still retain the little eyes, small noses, high cheeks, and broad faces. They vary in size from the lusty Kalmucks to the little Nogaians. The internal Americans, such as the Five Indian Nations, who are tall of body, robust of make, and of oblong faces, are derived from a variety among the Tartars themselves. The fine tribe of Tschutski seem to be the stock from which those Americans are derived. The Tschutski, again, from that fine race of Tartars the Kabardinski, or inhabitants of Kabarda."

If, as there can be little doubt, the population of America was effected, not by one sudden irruption of the Tartars, but by successive arrivals—at first, probably, the result of accident and subsequently of design,—the difference observable in the personal appearance of various tribes is at once accounted for, without referring to those variations which inevitably result from the conti-

* Herodotus, lib. iv.

† Colonel Schuyler told Dr. Morse, who was employed in 1820 by the American government to make a tour of inquiry of the actual state of Indian affairs in the States, that, during the war with the French, he was invited on one occasion to eat broth, which was ready cooked, with a party of Indians. He did so; until as they were striking the ladle into the kettle to give him some more, they lifted up a Frenchman's hand, which, as may easily be conceived, put an end to his appetite. It does not, however, appear that cannibalism has been a usual practice with the North Americans, although it has been common, and is still occasionally practised by the inhabitants of many of the Polynesian and Asiatic islands, particularly the New Zealanders and the Battas of Sumatra.

‡ See an account of his Life in Nos. 17 and 18 of the London Saturday Journal.

nual intermarriage of the members of the same tribe, perpetuating and strengthening any remarkable family peculiarity. The superior size of the Patagonians, which, although exaggerated by the elder voyagers, yet was not altogether a tale of Munchausen, is doubtless to be traced to the latter cause; and Mr. Catlin *, whose authority is unquestionable, mentions several of such instances,—such as the stature of the Osages, who are most of them over six feet in height, and many of them seven; the Crows, many of whom (we speak of the men) have hair reaching to the ground when standing upright, a peculiarity rare even among the women of other countries; and the Mandans, a tribe extinct within these three years, among whom "about one in twelve, of both sexes, and of all ages, had the hair of a bright silvery grey, and exceedingly coarse and harsh, somewhat like a horse's mane." This singular circumstance does not appear to have had any affinity to the causes producing the Albino varieties among the human race or the lower animals, in whom a remarkable susceptibility to light is universal; while among the Mandans neither the eyes nor the colour of the skin were affected. Among the portraits in Mr. Catlin's Gallery is one of a really pretty girl of twelve years old, with grey hair, producing a most strange effect; literally, a grey head upon green shoulders.

A remarkable link in the chain which appears to connect the Indians with the Tartars, is the existence of barrows precisely similar to those found in our own country, and scattered over various parts of Tartary. These barrows are found through the whole extent of the plain land of both North and South America; and the same mode of burial is still in use among some of the tribes. Mr. Catlin gives a view of the grave of a chief called Blackbird, who was buried on his favourite war-horse, which was alive; and the Scythians were in like manner accustomed to inhumate the dead with his dead master. The South American Indians are accustomed to bury the dead, but, when the flesh is consumed, they disinter the bones, and remove them to the general burying-place of the tribe. The Scythians carried the bodies of their kings to the remotest part of the country, Gherri, where they buried them in the royal sepulchres with many barbarous ceremonies, of which the reader will find an account in No. 34 of the London Saturday Journal, under the title of "Funeral Mounds." The various modes of burial in use among the Indians are also noticed in No. 63 (in the Letter-Box), which renders it less necessary for us to enter into detail upon that subject here.

Besides these barrows, there exist in many parts of the United States and in Mexico earthen mounds, which are regarded as fortifications, and have given rise to some very interesting speculations on early visits from Europe; on which our limits forbid us to enter at present.

The religious ideas of the Indians are very vague, and in fact they may perhaps be more properly described as superstitious than as religious. They acknowledge a supreme Deity, or Great Spirit, and believe in a future state of rewards and punishments; the latter being almost exclusively dreaded as the consequence of cowardice, other misdemeanours being comparatively venial in their eyes. They firmly believe in the existence of good and evil spirits, and particularly dread the anger of the latter, whom they seek to appease through the medium of their Mystery or Medicine-Men, who are supposed to possess power over them.

These mystery-men exercise considerable authority in their double capacity of priests and physicians; but they derive it, like "wizards" and "wise women," from the voluntary submission of those on whom they impose the belief of their supernatural power.

* See an account of his "Indian Gallery," in No. 59 of the London Saturday Journal.

This is sometimes attained, as among the Hindoos, by the infliction of self-torture, which is supposed to confer a mysterious authority over the invisible world. Thus, in one of Mr. Catlin's pictures, a Sioux is represented suspended to a pole by splints run through his body, with his medicine-bag in his hand, looking at the sun from its rising to its setting; an achievement which seems almost impossible without producing blindness, but, when performed, entitling the votary to great respect for the remainder of his life as a mystery or medicine-man.

As may be imagined, these men work chiefly by spells and charms, on which the greatest reliance is placed; and as confidence in the physician is in many cases half a cure, and they are doubtless acquainted with many simple remedies, they are often successful; and when a mishap *will* occur, they find no difficulty in shifting the blame of ill success to the patient's shoulders, by accusing him of having neglected their prescriptions, or in some other way interfered with the operation of their charms. Such men have, in all ages and countries, possessed themselves of extraordinary influence over the minds of the ignorant.

The Indians do not agree among themselves in the traditions they preserve of their own origin. A few believe that they are descendants of people born across "the great salt lake," but most suppose that their race was originally created on their own continent. Some conceive that the Great Spirit made them out of the celebrated red stone, from which, out of a single quarry, from time immemorial, they have made their pipes. Others say they were all created from the dust of the earth; but those who have become acquainted with the white people modestly add, "The Great Spirit must have made you out of the fine dust, for you know more than we."

It is a very singular fact, that of all the tribes visited by Mr. Catlin (48 in number) there was no one that did not, by some means or other, connect their origin with a big canoe, which was supposed to have rested on the summit of some hill or mountain in their neighbourhood. This was especially remarkable among the Mandans, in the centre of whose village stood a curb made of planks, which they called their "Big Canoe," and regarded as an object of religious veneration. He also beheld among them the performance of an annual religious ceremony held in remembrance of the "settling of the waters," commencing on the day on which the willow-trees of their country came into blossom. On asking why that tree, out of all others, was selected, Mr. Catlin was informed that it was because from it that the bird flew to them with a branch in its mouth; and when it was inquired *what* bird it was, the Indians pointed to the dove, which it appears was held so sacred among them, that neither man, woman, nor child would injure it: indeed, the Mandans declared that even their dogs instinctively respected this bird.

Similar traditions are found among the South American Indians. Captain Fitzroy relates that the aborigines near Valdivia point out a mountain called Theghin, or Theg-theghin, (which means to crackle or sparkle like fire,) on which they say that their early progenitors escaped from the deluge. Some writers have imagined that the Indians are descended from the Jews, and have taken much pains to support their theory; and at first sight these traditions would appear to favour their views: but when it is considered that the knowledge of the occurrence of a deluge is by no means confined to nations who can be presumed to have derived it from the Jews; that it is spread over Asia, and familiar to the Hindoos and Chinese; it loses all weight as an argument in support of the Jewish origin of the Indians. The absence of circumcision, the paucity of beard, and the custom of eradicating the few hairs that

make their appearance, are strong evidences against such a supposition.

The Indians practise many sports, the principal being dances of triumph, to celebrate success in war, hunting, or other joyful occasions. The most animated of all is the ball-play; and with a spirited account of such a scene, witnessed by Mr. Woodruff, when on a visit to Brant in 1797, and transcribed from his notes by Mr. Stone, in his *Life of the great chief*, we shall wind up our article.

"The place selected for the trial of strength, agility, and skill, was a broad and beautiful green, of perhaps one hundred acres, perfectly level, and smooth as a carpet, without tree, or shrub, or stone to encumber it. On one side of the green the Senecas had collected in a sort of irregular encampment—men, women, and children—to the number of more than a thousand. On the other side the Mohawks were actively assembling in yet greater numbers. The stakes deposited by each party were laid upon the ground in heaps, consisting of rifles, hatchets, swords, belts, knives, blankets, wampum, watches, beads, brooches, furs, and a variety of other articles of Indian utility and taste—amounting, in the whole, according to the estimate of Captain Brant, to upwards of a thousand dollars a side. By the side of the stakes were seated a group of the aged chiefs—'grave and reverend signors,' whose beards had been silvered by the frosts of many winters, and whose visages gave evidence of the toils of war and the chase.

"The combatants numbered about six hundred upon a side, young and middle-aged men—nimble of foot, athletic, and muscular. Their countenances beamed with animation and high hope. In order to the free and unfettered use of their sinewy limbs, their persons were naked, with the exception of a single garment like an apron, or kilt, fastened around the waist, and descending nearly to the knee. The area of the play-ground was designated by two pairs of 'byes,' placed at about thirty rods distant from each other, and the goals of each pair about thirty feet apart. The combatants ranged themselves in parallel lines on each side of the area, facing inward, and leaving a space between them of about ten rods in breadth. Their bats were three feet six inches in length, curved at the lower end somewhat in the form of a ladle; the broad part for striking the ball being formed of net-work, woven of thongs of untanned deer-skin, strained to the tension of tight elasticity. The ball, large as a middling-sized apple, was also composed of elastic materials.

"On one side of the area, near the centre of the line, and in a conspicuous place, were seated a body of elderly sachems of each nation, with knives and tally-sticks, to score the game. The rules governing the game were somewhat intricate. None of the players were allowed to touch the ball with hand or foot, until driven beyond the 'byes' or land-marks. It was then thrown back by hand toward or into the centre of the area, when the game proceeded as before. Their mode of counting the game was peculiar, the tallies-men not being in all cases bound by arbitrary rules, but left to the exercise of a certain degree of discretionary power. Each passage of the ball between the goals, at the end of the play-ground, counted one, so long as the contest was nearly equal; but, for the purpose of protracting the game, whenever one party became considerably in advance of the other, the tally chiefs were allowed to check or curtail their count in proportion to the excess. For instance, if the leading party had run up a regular count to thirty, while their opponents had numbered but fifteen, the tallies-men, at their discretion, and by consent of each other, though unknown to the players, would credit the winning party with only two notches for three passages of the ball—varying from time to time, according to the state of the game. The object of this course was to protract the game, and to increase the amusement, while despondency upon either side was prevented, and the chance of ultimate victory increased. Frequently, by this discretionary mode of counting, the game was continued three or four days.

"The game on this occasion was commenced by about sixty

players on a side, who advanced from their respective lines with bats in their hands, into the centre of the play-ground. Of this number about twenty were stationed at the end land-marks, to guard the passage of the ball. The players who were to begin were apparently mingled promiscuously together. All things being thus ready, a beautiful maiden, richly dressed in the native costume of her people, wearing a red tiara plumed with eagle's feathers, and glittering with bracelets and other ornaments of silver, came bounding like a gazelle into the area, with the ball, which she placed upon the ground in the centre. Instantly the welkin rang with the shouts of the whole multitude of spectators, and the play began; while the bright-eyed maiden danced back, and joined her own circle among the surrounding throng. The match was begun by two of the opposing players, who advanced to the ball, and with their united bats raised it from the ground to such an elevation as gave a chance for a fair stroke; when, quick as lightning, it was sped through the air almost with the swiftness of a bullet. Much depends upon the first stroke, and great skill is exerted to obtain it.

"The match was played with great spirit, and the display of agility and muscular strength was surprising. Every nerve was strung; and so great were the exertions of the players, that each set was relieved by fresh hands every fifteen or twenty minutes; thus alternating, and allowing every player of the whole number to perform his part, until the game was finished. The scene was full of excitement and animation. The principal chief entered fully into the enjoyment, and by his explanations to his guest heightened its interest, which, of itself, the latter declared to have afforded him a greater degree of satisfaction than any game or pastime that he had ever beheld. The contest was continued three days, at the end of which, after a severe struggle, the Senecas were proclaimed the victors, sweeping the stakes, to the great mortification of the proud-spirited Mohawks, the head of the confederacy."

THE MAGICIAN'S VISITER.

It was at the close of a fine autumnal day, and the shades of evening were beginning to gather over the city of Florence, when a low quick rap was heard at the door of Cornelius Agrippa, and shortly afterwards a stranger was introduced into the apartment in which the philosopher was sitting at his studies. The stranger, though finely formed and of courteous demeanour, had a certain indefinable air of mystery about him, which excited awe, if, indeed, it had not a repellent effect. His years it was difficult to guess, for the marks of youth and age were blended in his features in a most extraordinary manner. There was not a furrow in his cheek or a wrinkle on his brow; and his large black eye beamed with all the brilliancy and vivacity of youth; but his stately figure was bent, apparently beneath the weight of years; his hair, although thick and clustering, was grey; and his voice was feeble and tremulous, yet its tones were of the most ravishing and soul-searching melody. His costume was that of a Florentine gentleman; but he had a staff like that of a palmer in his hand; and a silken sash—inscribed with Oriental characters—was bound around his waist. His face was deadly pale; but every feature of it was singularly beautiful, and its expression was that of profound wisdom, mingled with poignant sorrow.

"Pardon me, learned sir," said he, addressing the philosopher, "but your fame has travelled into all lands, and has reached all ears; and I could not leave the fair city of Florence without seeking an interview with one who is its greatest boast and ornament."

"You are right welcome, sir," returned Agrippa; "but I fear that your trouble and curiosity will be but ill repaid. I am simply one, who, instead of devoting my days, as do the wise, to the acquirement of wealth and honour, have passed long years in painful and unprofitable study, in endeavouring to unravel the secrets of nature, and initiating myself in the mysteries of the occult sciences."

"Talkest thou of long years!" echoed the stranger, and a melancholy smile played over his features: "thou, who hast scarcely seen fourscore since thou left'st thy cradle, and for whom the quiet grave is now waiting, eager to clasp thee in her sheltering arms! I was among the tombs to-day,—the still and solemn tombs: I saw them smiling in the last beams of the setting sun. When I was a boy, I used to wish to be like that sun; his career was so long, so bright, so glorious. But to-night I thought it was better to slumber amongst those tombs than to be like him. To-night he sank behind the hill, apparently to repose; but to-morrow he must renew his course, and run the same dull and unvaried, but toilsome and unquiet race. There is no grave for him, and the night and morning dews are the tears that he sheds over his tyrannous destiny."

Agrippa was a deep observer and admirer of external nature, and of all her phenomena, and had often gazed upon the scene which the stranger described; but the feelings and ideas which it awakened in the mind of the latter were so different from anything which he had himself experienced that he could not help, for a season, gazing upon him in speechless wonder. His guest, however, speedily resumed the discourse.

"But I trouble you, I trouble you;—to my purpose in making you this visit. I have heard strange tales of a wondrous mirror, which your potent art has enabled you to construct, in which whosoever looks may see the distant or the dead on whom he is desirous again to fix his gaze. My eyes see nothing in this outward visible world which can be pleasing to their sight. The grave has closed over all I loved. Time has carried down its stream everything that once contributed to my enjoyment. The world is a vale of tears; but among all the tears which water that sad valley, not one is shed for me;—the fountain in my own heart, too, is dried up. I would once more again look upon the face which I loved. I would see that eye more bright, and that step more stately, than the antelope's; that brow, the broad smooth page on which God had inscribed his fairest characters. I would gaze on all I loved and all I lost. Such a gaze would be dearer to my heart than all the world has to offer to me, except the grave—except the grave."

The passionate pleading of the stranger had such an effect upon Agrippa (who was not used to exhibit his miracle of art to the eyes of all who desired to look in it, although he was often tempted by exorbitant presents and high honours to do so), that he readily consented to grant the request of his extraordinary visitor.

"Whom wouldst thou see?" he inquired.

"My child, my own sweet Miriam," answered the stranger.

Cornelius immediately caused every ray of the light of heaven to be excluded from the chamber, placed the stranger on his right hand, and commenced chanting in a low soft tone, and in a strange language, some lyrical verses, to which the stranger thought he heard occasionally a response; but it was a sound so faint and indistinct, that he hardly knew whether it existed anywhere but in his own fancy. As Cornelius continued his chant, the room gradually became illuminated; but whence the light proceeded it was impossible to discover. At length the stranger plainly perceived a large mirror which covered the whole of the extreme end of the apartment, and over the surface of which a dense haze or cloud seemed to be rapidly passing.

"Died she in wedlock's holy bands?" inquired Cornelius.

"She was a virgin spotless as the snow."

"How many years have passed away since the grave closed over her?"

A cloud gathered on the stranger's brow, and he answered somewhat impatiently, "Many, many; more than I now have time to number."

"Nay," said Agrippa, "but I must know. For every ten years that have elapsed since her death once must I wave this wand; and when I have waved it for the last time, you will see her figure in yon mirror."

"Wave on, then," said the stranger, and groaned bitterly: "wave on, and take heed that thou be not weary."

Cornelius Agrippa gazed on his strange guest with something of anger, but he excused his want of courtesy on the ground of the probable extent of his calamities. He then waved his magic wand many times, but, to his consternation, it seemed to have lost its virtue. Turning again to the stranger, he exclaimed,—

"Who and what art thou, man? Thy presence troubles me. According to all the rules of my art, this wand has already described twice two hundred years,—still has the surface of the mirror experienced no alteration. Say, dost thou mock me, and did no such person ever exist as thou hast described to me?"

"Wave on, wave on!" was the stern and only reply which this interrogatory extracted from the stranger.

The curiosity of Agrippa, although he was himself a dealer in wonders, began now to be excited; and a mysterious feeling of awe forbade him to desist from waving his wand, much as he doubted the sincerity of his visitor. As his arm grew slack, he heard the deep solemn tones of the stranger exclaiming, "Wave on, wave on!" and at length, after his wand, according to the calculations of his art, had described a period of above twelve hundred years, the cloud cleared away from the surface of the mirror, and the stranger, with an exclamation of delight, arose and gazed rapturously upon the scene which was there represented. An exquisitely rich and romantic prospect was before him. In the distance rose lofty mountains, crowned with cedars; a rapid stream rolled in the middle; and in the fore-ground were seen camels grazing, a rill trickling by, in which some sheep were quenching their thirst, and a lofty palm-tree, beneath whose shade a young female, of exquisite beauty, and richly habited in the costume of the East, was sheltering herself from the rays of the noontide sun.

"'Tis she! 'tis she!" shouted the stranger; and he was rushing towards the mirror, but was prevented by Cornelius, who said, "Forbear, rash man, to quit this spot! with each step that thou advancest towards the mirror, the image will become fainter; and shouldst thou approach too near, it will vanish away entirely."

Thus warned, he resumed his station, but his agitation was so excessive that he was obliged to lean on the arm of the philosopher for support, while, from time to time, he uttered incoherent expressions of wonder, delight, and lamentation.

"'Tis she! 'tis she! even as she looked while living! How beautiful she is! Miriam, my child, canst thou not speak to me? By Heaven she moves! she smiles! Oh speak to me a single word! or only breathe, or sigh! Alas! all's silent—dull and desolate as this heart! Again that smile! that smile, the remembrance of which a thousand winters have not been able to freeze up in my heart! Old man, it is in vain to hold me! I must, will clasp her."

As he uttered the last words he rushed frantically towards the mirror; the scene represented within it faded away, the cloud gathered again over its surface, and the stranger sunk senseless to the earth.

When he recovered his consciousness, he found himself in the arms of Agrippa, who was chafing his temples, and gazing on him with looks of wonder and fear. He immediately rose on his feet with restored strength, and, pressing the hand of his host, he said,

"Thanks, thanks, for thy courtesy and thy kindness, and for the sweet, but painful sight which thou hast presented to my eyes."

As he spake these words, he put a purse into the hand of Cornelius; but the latter returned it, saying,

"Nay, nay, keep thy gold, friend. I know not, indeed, that a Christian man dare take it; but be that as it may, I shall esteem myself sufficiently repaid if thou wilt tell me who thou art."

"Behold!" said the stranger, pointing to a large historical picture which hung on the left-hand of the room.

"I see," said the philosopher, "an exquisite work of art, the production of one of our best and earliest artists, representing our Saviour carrying his cross."

"But look again!" said the stranger, fixing his keen dark eyes intently on him, and pointing to a figure on the left hand of the picture.

Cornelius gazed, and saw with wonder what he had not observed before—the extraordinary resemblance which this figure bore to the stranger, of whom, indeed, it might be said to be a portrait.

"That," said Cornelius, with an emotion of horror, "is intended to represent the unhappy infidel who smote the divine sufferer for not walking faster, and was, therefore, condemned to walk the earth himself until the period of that sufferer's second coming."

"'Tis I! 'tis I!" exclaimed the stranger; and, rushing out of the house, rapidly disappeared.

Then did Cornelius Agrippa know that he had been conversing with the Wandering Jew.—*Ackermann's "Forget Me Not,"* for 1828.

OSMYN AND CALED.

OSMYN, who fill'd the Persian throne
With high tyrannic sway,
All night in fancied chains would groan,
But woke a king at day.

Caled, his slave, in bondage held,
From friends and country torn,
In dreams the regal staff would wield,
But woke a slave at morn.

Morn to the king restored the crown,
And made poor Caled sigh;
Returning night threw Osmyn down,
And raised the slave on high.

Ye casuists,—'tis a doubtful thing,—
An answer then I crave:
Pray tell me, was the slave a king?
Or was the king a slave?"

JAMES SMITH.

CHINA AND THE CHINESE.

NO. VIII.

WALKS UPON THE LAPA, NEAR MACAO.

MANY of my earlier excursions in the neighbourhood of this place, Macao, were made upon a hilly island which flanks the further side of the inner harbour; and as I love to converse with every department of nature, I bend my eye not only upon the animal and vegetable objects that lie beside my path, but also to the structure of that earth which God hath given to the children of men. I observe, therefore, that the rock on which the soil rests is granite, which at some remote period was upheaved from its bed and broken into ten thousand fragments: many of these fragments are strewn over the sides of the hills, and called, in the language of geologists, boulders. At first sight, we ask, perhaps, by what mighty torrent they had been swept along and left in their present position; and the fancy, taking the hint, provides us with a deluge adequate for that purpose. But a closer attention will soon teach us, however, that whatever effect the flood described by Moses, or any other vast inundation, may have had in transporting such boulders to distant places elsewhere, those that are scattered over the island of which we are speaking, are nearly, if not exactly, in their native beds: for they are of the same nature as the rock upon which they are resting, and we see them in many spots piled upon each other, as if the hand of some gigantic builder had been employed in their adjustment. We can easily understand how the breaking forth of waters might have lodged the huge masses of stone which we see around us in a valley or upon the side of a hill, but we are at a loss to conceive how it could rear a pyramid of several stories resting upon a simple or compound base. We are hence compelled to resort to another hypothesis, and assume that these are the remains of some stu-

pendous piles which Nature reared up when the rocks were torn from their bases, rent asunder and parted into fragments of every kind of form and size. The decomposing effect of the atmosphere has reduced the smaller ones to sand and soil, which the water has carried towards the sea, and spread them out into plains for the cultivation of rice, herbs, and various kinds of grain. The larger pieces have been able to lose much by the corroding effects of time, without losing all. We readily perceive the reason of that process which reduced the rock to shivers, that they might by further reduction afford a pabulum for the growth of vegetables; but we do not see at once why these huge boulders should still be left to encumber the ground which they cannot fertilise. But if our pursuit should happen to be after plants and flowers, we should not be long in finding out how greatly we were indebted to the protecting shade of these dishevelled masses; for wherever they lie in any abundance, there we find something to requite the toil of the botanist. They are not unfrequently heaped together so as to form a labyrinth, into which I have sometimes forced my way, and picked up something that was lost to all, save to the "prying eye" of the botanist. What was said of the miner, applies in some sort to him: "He setteth an end to darkness, and searcheth out all perfection." (Job, xxviii. 3.) These stones, which seemed to have been thrown about at random, without any regard to utility, are thus found to be the benefactors and patrons of the "weeds" and shrubs that flourish under their protection. They shelter them effectually from the north-east wind, one of the most "sweeping breezes" that I ever encountered. The pines or mountain fir of Southern China (*Pinus sinensis*), and a few grasses, alone seem able to endure its biting edge. The eye of the Creator in gracious forecast was directed to this fact, and he has made an arrangement for counteracting its effects in the wild strewment of boulders upon which we have been commenting.

Among these rocky fragments, and the herbs that grow between, the buffalo often browses. At the sight of a foreigner he starts, rears his head, and stands in a steadfast and most suspicious gaze. It is obvious that this is the effect of fear; but whether this fear will prompt the animal to flee from the supposed danger, or to forestall it by an assault, is what perplexes the mind of the stranger. He stands in doubt, unwilling to retreat, afraid to go forward. The buffalo is in the same predicament, and cannot decide whether he ought to turn his face or his back towards the unwelcome visitor. He seems to have taken a hint from the rulers of his country, who are afraid of that from which they have nothing to apprehend, and put on the air and attitude of menace and defiance, while their hearts quail within them. I am half serious when I say he seems to have taken a hint from the rulers of his country; for in other places the buffalo grazes amidst the long and stiff-culmed grass, unmindful of the stranger, with all the tranquillity of the cow or the ox among ourselves, and seldom puts on a threatening aspect unless he is disturbed when luxuriating in a slough or mud plash: for this creature resembles the swine or wild-boar in its fondness for water; and this instinctive love of moisture is so great, that it matters not at all whether the pool be sweet or fetid, clear or foul. The Chinese, whose systems of zoology are somewhat eccentric, often select the most characteristic feature in the shape or habit of an animal, and give it a prominent place in their descriptions. In this, the lover of Nature will allow, consists the true genius of the zoologist; for his art lies not in the enumeration of a multitude of particulars, but in the choice of such as are essential. The Chinese, for example, call the buffalo the *water-kine*, in allusion to the propensity just mentioned, and say, by way of defining its chief characteristic, that it *walks stooping*, on account of the comparative shortness of the

fore-feet. Owing to this circumstance it runs with a peculiar leaping motion, and with great speed, though the constrained manner in which it progresses when advancing slowly might not prepare us to look for it. A friend who saw a buffalo and a tiger encounter in some public spectacle at Java told me, that when the tiger was in the act of bounding upon the buffalo, the latter tossed him to a great height into the air, and then ere the discomfited creature could reach the ground he received a second rebuff from the head of his nimble antagonist. I need not remind the reader that the swiftness of the hare is not a little aided by the comparative shortness of the fore-legs, which allows the hind ones to strike the ground with an elastic spring like the recoil of a bow.

A little boy is often set to watch a herd of buffaloes, and to prevent their straying to a distance. Sometimes we see him tending a single animal, holding it by a cord which is attached to a ring that passes through the partition between the nostrils, the *septum narium* of the anatomist. At the sight of the *fan kwei*, or foreigner, the buffalo rears his head, and his little keeper begins to cry out as if the knife of the assassin were held at his throat. He is afraid that the creature, in a wild fit of terror, should hurry away regardless of the "hook in his nose," or "the crying of the driver." At this the good-natured traveller retires behind a fence, or the jutting shade of some boulder; and so the boy and his buffalo are at once released from their fears, and fall into the same repose of thought in which they were when the ill-boding phenomenon made its appearance.

Upon this island of which I am speaking, many a time has the foreigner smarted from the sturdy strokes of the well-plied bamboo; but not a few times have I strayed alone and never met with anything in the shape of ill-usage. Chinese who met in these rambles would sometimes caution me against going too far, and tell me that bad men would assault and beat me. My answer to these monitory hints was uniformly, "The Chinese are not bad men, they are not strangers to what propriety requires," and then pursued my way to let them see that I felt no fear, because I meant no harm. Arm yourself with gentleness and good will, and let men see that your courage and confidence are founded upon the feelings which belong to these qualities, and in China, and many other places where it has been my lot to travel, you will have a panoply that will repel in ninety-nine instances out of a hundred any attack upon your person.

In one of my early visits to the island, I encountered a person of great courtesy and polish on his return from a little hamlet in the neighbourhood. Seeing that I was in quest of plants, his curiosity was awakened to ask for what purpose I gathered them. Instead of directly answering his question, I asked him the names of several in my bag; but not being much skilled in such matters, he called some peasants to settle the points for him. By way of letting him see what I wanted in the way of information, I took a flying sketch of a tree hard by, and then asked its native name, which he most obligingly wrote down among my memoranda. In return for this kindness I gave him two or three volumes that lay at the bottom of the bag. With these he seemed extremely pleased, and explained to the bystanders, who now began to flock around us, in what way he had obtained them. "I," said he, "gave the stranger a few hints respecting the names and uses of herbs, and in requital he gave me these books." And then, as if determined not to be outdone in kindness, he conducted me to the cottage of some acquaintance, and asked them to give me tea and such hospitality as their means could afford. They brought me some tea and a cigar: the latter I declined, and the former I sipped at my leisure; for although I easily conform to the China-

man's usage of drinking tea without milk or sugar when presented at the house of the more wealthy, fuming with a most grateful aroma, I do not feel the same relish when it has long been "brewing" upon the well-soddened leaves. But a thorough-paced traveller always accepts the will for the deed, and thanks the kind hostess with all his heart who offers him a dish of tea which she has just warmed over a smoking fire of dried grass. And I may just remind the reader that in southern parts of China, where wood is scarce, and consequently very dear, the poor people fetch the long grass from the sides and brows of the mountains, bind it up in bundles, and stack it for a store of winter fuel. As the houses are not provided with a chimney, the smoke, which rises from the smouldering grass in prodigious quantities, curls and rolls wherever it lists, to the great discomfort of the industrious housewife. The writer was once telling a circle of country friends, that in the different countries upon the west side of the American continent, the houses had no such provision as a tube, flue, or chimney to let out the smoke. "Where does the smoke go, then?" they all asked at once with the most eager curiosity. "Why, into your eyes, to be sure," was the reply. There was a good deal of banter but some truth in this reply, for the moisture distributed over the eyeballs attracts the smoke and condenses it upon the surface of that organ, and hence the reason of that apparent eagerness to insinuate itself into a place where it can least be endured. But, in adverting to the inconvenience of the smoke, I had nearly forgotten the bestowment of the fuel. The hills, from exposure to winds and the hungry nature of the soil, produce nothing in the shape of a tree save a few stunted pines, which are never meddled with by the poor, but by a kind arrangement they are made to yield a plenteous crop of tall and sturdy grasses (chiefly of the *Andropogon* family), which the needy find an excellent substitute for wood. How hard would it be to find a spot where some lively marks of the Creator's goodness are not to be seen! The earth is indeed "full of his goodness."

We have just referred to a kind arrangement; let us allude to an instance of adaptation. Rice, as the reader in all probability knows, is cultivated in a soil covered with water, or, in different words, in mud, well prepared by stirring and manure for its reception. In the early part of the year a fertile spot of ground is chosen, into which the seed is poured with an unsparing hand. After it has germinated and the sprouts have attained a length of about six inches, it is dug up and parted into tufts for transplanting. These plants are set in lines, at proper intervals from each other, by the hands of workmen, who execute their business with great despatch and adroitness. The bed into which these are thrust consist, as we have intimated, of soil well mixed and covered with water. In the labour of bringing the ground to this state, the buffalo performs no unimportant part, as he draws a plough of rude and original mechanism, in many a tedious bout, from one side of the field to the other. The plough stirs up and parts the sluggish glebe, while the feet of the animal assist not a little in its subacting, and its incorporation with the water. The wading in mud from morn to noon, and from noon to dewy eve, is not a work for which either our horse or our ox is calculated, as those know who are familiar with the history and habits of these invaluable animals. The horse often lets the most casual observer see that he has no predilection for moisture; for if a raised terrace happens to cross the field where he pastures, and the night be wet, he stations himself upon the path where it is driest, though the shelter of tree or fence might seem to invite him to a different situation. But the buffalo, the *water-kine* of the Chinese, is "in his element" while at this work, and therefore takes pleasure in what the horse or the beeve would feel pain and inconvenience.

How nicely then has God adapted the disposition of the animal for the nature of the work for which it is required! Foreknowledge, acting upon a system, is seen from the beginning to the end. The streams of water tumbling down the deep ravines and dells, sweep large quantities of earth with them, which is deposited at the bottom of some withdrawing nook, and through the accumulating force of time produces a wide-spread alluvium for the fields of rice. The ground is appropriated by the perseverance of man, laid out in numerous plots by means of banks and terraces, and then, as the water still continues to descend, a stone is always at hand for a copious irrigation. To help him in the work, the buffalo comes to his aid, with a strength of body and a peculiarity of instinct or habitude that exactly fit him for it.

One of the greatest nuisances a traveller meets with in many parts of China, as well as upon the island which is supposed now to be the sphere of our imaginary excursion, is met in the everlasting "yelping" of the cowardly curs that haunt almost every dwelling. Fierce without courage, and fearful without the sagacity of kindness, they keep up an incessant barking from the time of your appearance till long after you are out of sight. Neither the threats of the master, nor the proffered friendship of the stranger, can pacify them for a moment. Amidst the noise thus made, the guest and the host can scarcely hear each other speak; and sometimes this is so intolerable, that I have cut short my visit and departed very abruptly. Some who have visited similar situations have dealt blows among, or hurled stones at these peace-breakers, which affronts the Chinaman without taming his dog;—a practice I seldom adopted, for fear of undoing all that gentleness and good humour might have done for me. Now and then I would pursue the terror-stricken brutes with my hat or my bag, as if I meant to carry them off, which generally excited a good deal of mirth among the bystanders, and alleviated the nuisance of these unwelcome salutations. As these dogs are not trained for any purpose, nor caressed or educated as pets, one is ready to ask, what are they good for? To this the Chinaman replies, by telling you, that when young and delicately fed they compose a dish more savoury and tender than a young pig. Besides this, they are excellent alarms, and never omit to give notice of danger: thus they warn their owners by their fear, though they cannot protect them by their courage.

In the island of which we are speaking there is a romantic valley, remarkable for the rugged steepness of the slopes, and the crystal stream that rolls at the bottom. A Chinaman of an enterprising turn of mind contrived to direct a part of this stream, and so to guide it, by the application of conduits, as to obtain a fall of water to work his water-mill. The workmanship was rudely finished, but the ingenuity of invention was fully adequate to the purpose. The water-wheel was what is called an overshot wheel, or the floats or buckets so contrived as to receive the water that fell from above. Upon the same shaft was a vertical wheel, with pegs instead of teeth; these teeth acted upon a horizontal wheel, which was mortised to the upper end of the axis on which the millstone turned. By this mechanical arrangement the water communicated its motion to the upper millstone, and was the first in the chain of instrumental causation in the business of grinding the corn. The hopper or vessel for dispensing the corn to the mill was very simple; it was a square chest with a hole in the centre, and, resting upon the top of the axle, revolved round with the millstone. The reader is aware that if a vessel be filled with grain it will not part freely with it, though there be many holes in the bottom, while it remains without shaking. To make the wheat run freely through the hole at the bottom of the Chinaman's hopper, was a matter that required a little contrivance; a requirement which he has fulfilled

in a very compendious way, for a stick is stuck into the centre of the corn, passing through the aperture at the bottom, and bent or inclined to one side by means of a piece of string attached to an immovable object. While the hopper revolves, the stick remains stationary, and describes an inverted cone or hollow in the middle of the corn; down the inner surface the grain trickles in an exact and most elegant manner. As the miller is so familiar with the description of a cone, I should feel surprised at finding no trace of this figure in the books of Chinese philosophers, did I not see every reason to believe that this ancient nation never had a conception of any geometrical truth whatsoever. The device by which the sieve was made to librate in alternate motion was of kindred simplicity. A wheel, with long pegs for teeth, was placed so as to act upon one end of a beam, which played upon a fulcrum like the beam of a balance. Each stroke of these teeth depressed the end of the beam on which they acted, and, as a matter of course, elevated the other. This latter was connected by a cord to the sieve, and thus when elevated drew the sieve after it. It described, in mathematical language, the arc of a circle, and extended the string in a tangent to that arc. In this way the sieve was pulled *hither*, while the elasticity of another cord pulled it *thither*. An alternate motion was given in a way, however, simple in principle and practice, which shows, I think, some subtlety of thought. It is often said that the Chinese are ingenious people, and with great truth; and yet there is nothing in art or science that I deprecate more than general assertions. A writer may seem a wise man in wielding them, but the reader will never learn wisdom by giving heed to them. One instance of Chinese ingenuity in detail, is worth a thousand general affirmations about their cunning and sagacity. Everything about this mill bespoke ingenuity of contrivance; nothing bore marks of neatness in the finish save the beam of the steel-yard. This was very large, made of the hardest wood, and graduated with lines of bright and elegant studs. A Chinese is a thorough tradesman, and knows full well that unless the "ephah," or standard of weight or measure, be exact and uniform, there can be no faith or certainty in the transactions of business. This beam, which is upon the same principle as what we call the Roman steel-yard, formed an instructive emblem of the native character in reference to that all-enlivening subject, trade. As I surveyed the various items upon the premises of this active and enterprising man, and took a glance now and then at his round and full-fed face, I said within myself, "This fellow would not care a fig for my books, and, perhaps, thinks me a very great fool for exposing my head to the scorching sun, for the sake of scattering a few among such of his poorer neighbours as can read them." I left his mill, therefore, determined not to say a word about my errand, but at the same time wishing with all my heart that the mandarins might not get scent of his prosperity, and so devise some pretext for putting their paws upon some of its results. The next time I passed that way, I offered him a part of the New Testament without ceremony, which he accepted with the marks of the liveliest gratitude, though at his dinner, a true Chinaman can least brook interruption. Well, thought I, surmise after all is a bad companion—I shall have to pay him off very shortly.

TRUE POLITENESS.

POLITENESS is a just medium between formality and rudeness; it is, in fact, good-nature regulated by quick discernment, which proportions itself to every situation and every character; it is a restraint laid by reason and benevolence on every irregularity of temper, of appetite, and passion. It accommodates itself to the fantastic laws of custom and fashion, as long as they are not inconsistent with the higher obligations of virtue and religion.

To give efficacy and grace to politeness, it must be accompanied

with some degree of taste as well as delicacy; and although its foundation must be rooted in the heart, it is not perfect without a knowledge of the world.

In society, it is the happy medium which blends the most discordant natures; it imposes silence on the loquacious, and inclines the most reserved to furnish their share of conversation; it represses the despicable but common ambition of being the most prominent character in the scene; it increases the general desire of being mutually agreeable; takes off the offensive edge of railery, and gives delicacy to wit; it preserves subordination, and reconciles ease with propriety; like other valuable qualities, it is best estimated when it is absent.

No greatness can awe it into servility, no intimacy sink it into coarse familiarity; to superiors, it is respectful freedom—to inferiors, it is unassuming good-nature—to equals, everything that is charming; studying, anticipating, and attending to all things, yet at the same time apparently disengaged and careless.

Such is true politeness, by people of wrong heads and unworthy hearts disgraced in its two extremes, and by the generality of mankind confined within the narrow bounds of mere good breeding, which is only one branch of it.—*Lounger's Common-place Book.*

INTELLECTUALITY OF DOMESTIC ANIMALS.

CONCLUDED.

OF dogs I need not say much. Large books are to be got, descriptive of their fidelity, intelligence, and usefulness; and each of you, no doubt, has some fact that has come under your own knowledge, and which convinces you that dogs have almost reasoning powers. Many of you, no doubt, have read of the Newfoundland dog in Cork who, when vexed, barked at, and bitten at by a cur, took it up in his mouth, went quietly to the quay, and dropped it into the river; and when, after a time, he saw it carried down by a strong tide, and unable to swim to shore, he plunged in, took the culprit by the neck, brought it to land, and giving it a good shake, departed; the shake being as much as a *hint* to go and sin no more. Here was justice tempered with mercy—here was an acquaintance with the nature and uses of secondary punishments that would have done credit to a political economist. But I cannot leave the subject of dogs without recounting what I heard, within these few days, respecting a dog I have the pleasure of knowing; and I am assured that the facts can be attested by fifty persons or more,—in truth, by the inhabitants of a whole village.

The rector of a parish in the county of Sligo, at whose house I spent some days last September, has an English spaniel, now rather advanced in years. He has been of great value as a sporting dog; and besides being remarkable for general sagacity, has acted as a playfellow, a guide, and a guardian to seven sons. Now the eldest had just gone out into life with every promise of being a credit to his parents, and a blessing to them and others. He had been ordained and appointed to a curacy, where he was loved, honoured, and followed. But in the midst of his sacred labours, and in attendance on a sick-bed, he got a fever; during the progress of the disease, his parents were apprised of his illness, but not so as to communicate much apprehension; but still, being a distance of 140 miles, they were anxiously looking out for another letter. In this interval the spaniel was observed to have left the hall-door, where he usually basked during the day, and betake himself to a high ditch that overlooked the road towards Dublin. There he continued to howl at intervals, and though sometimes coaxed away, and sometimes driven by his master with blows, he returned, and for two days continued; when, without any apparent reason, he left the spot, and came back to his usual haunts. In the regular course of post, a letter brought the sad tidings that on the day on which the dog ceased howling the young man had breathed his last.

Of all the sights under the sun, perhaps the most touchingly grievous is the spectacle of parents mourning over the death of

children that have arrived at maturity, and who just give the goodly promise of being the sure stay of their declining years. The parents I now allude to have been sorely tried in this way; for the year following, the next son, a youth of twenty, a fine manly fellow, with every quality of head and heart that a fond father could desire—he, also, was seized with fever. It is not for me to detail the alternations of hope and fear that possessed the minds of this much-tried family;—but what I must relate is, that the spaniel was found to have returned to his former station on the ditch, and there was uttering his melancholy howl. I can never forget the deep feeling with which the father told me how an aged female follower of the family, and who had nursed the boy—taught him to lisp Irish on her lap, came up and told him in an *agony of tears*, that it was all of no use—he might as well send away the doctor—for that yonder was the dog, and there he was howling, and it was all over with Master Edward, for God had called him away. And so it was. The youth died, and from *that moment* the dog ceased to howl; neither was he any more seen resorting to the place he had so ominously occupied. I have heard of many similar instances of dogs being acquainted with the coming death of those they love, but not with one so well attested as this. I tell what I believe to be true, and without drawing any superstitious or supernatural inferences from it. I can only conclude that there may be communicated to the acute senses of dogs and other animals (as, for instance, ravens and magpies), evidences of approaching dissolution which, to us, are altogether unexplainable; and that there may be in heaven and earth things not dreamed of in our philosophy.

In corroboration of the above statement, I give the following extract of a letter I received from a lady with whom I had subsequently conversed, and who, I am assured, would not knowingly assert what she thought was untrue:—

"I hope you will accept the following statement, in return for the gratification I received from your lecture on the sagacity of animals.

"When I was a child on my dear mother's knee, she often amused me with stories of the affection and sagacity of 'Dick,' her father's favourite dog. One incident remained deeply impressed on my mind. My grandfather, Mr. H—m, of the county of Cavan, came to Dublin, on business; and shortly after, Dick repaired to an old lime-kiln, which he refused to leave, and then set up a dismal and incessant howl. The next post brought the news that Mr. H—m was seized with gout in his stomach; and before his son could reach Dublin he was no more. The dog ceased to howl exactly at the period of his master's death; and, having refused the food brought to him, was found dead before the funeral arrived at the family burial-place."

My valued friend, Robert Ball, the devoted and able naturalist, to whom Dublin owes the establishment of the Zoological Society, on the 8th ultimo, concluded the lectures by a well-digested *résumé* of what had been delivered by those who had gone before him during the season. When he came to my *effort*, he thought it necessary to cull me out from the rest, as deserving of censure, for my story of the Sligo dog; thinking it proper, no doubt, to warn off the minds of the audience from the superstitious feelings which he assumed my narrative was calculated to engender. Now on this occasion I must, with great respect, say that I am neither convicted by his inference, nor converted by his explanation. And first, with respect to his inference that my story was superstitious, I don't consider that it was. I allow, it is to *me* (if true) unexplainable; but what of that—are we, at this day, to withhold circumstances that are well attested, because we cannot explain them? If thus afraid of *FACTS*, what would become of geology? No;—fearlessness of investigation is the character of sound philosophy; and as Sir Philip Crampton rightly said in his lecture on the same evening, that it was the proper work of the scientific world not to deny a statement, however startling, because improbable, but to investigate dispassionately whether it were a *fact*. Well, but Mr. Ball is determined to take the sting of superstition out of the tail of my story—and he is right if he could—by explaining, in a very

common-place way, what I would make believe to be unaccountable, as follows. I don't say these are the words of Mr. Ball—I merely quote from memory. People *superstitiously* believe dogs know and announce the coming death of those to whom they are attached, by howling. But this is a vulgar error, and arises from the common practice of dogs howling by night, and persons, when any in a family are sick and dying, being then more watchful, or more liable to hear when dogs howl. I myself, says he, on one occasion, was witness to this superstition, and instrumental in removing both the cause and the feeling. I was in a house when an important member of the family was so sick as to cause serious apprehension for his life. One night, when thus dangerously ill, the dogs began to howl. Oh! all concluded, the man *must* die—don't we hear the dogs? But this was not Mr. B.'s conviction; for he went out to the kennel where the dogs were, and then found that a cat had interloped, and ventured to abstract some of the dog's food—that they hunted her, and she escaped through a hole, where they could not follow, and therefore they howled with vexation. Mr. B. put an instant stop to the howling, by stopping the hole through which the cat escaped; and so debarred the cat from future access to the kennel, and the dogs from their provocation. Moreover—what was better than all—his friend recovered. With this explanation, and this narrative, the secretary considered he had made my story "reading made easy" for all the young ones attending the lecture. But, begging his pardon, I think that he leaves *my* narrative as unexplained as ever; and I might as well say that I overthrew the credit of every circumstance handed down to us by strong and creditable testimony as having the *appearance* of being supernatural, because, the other night, I detected my servant-boy in the act of terrifying a chamber-maid into hysterics, by passing before her in a white sheet and a chalked face. Who denies that it is common for dogs to howl by night in town or country?—who denies that the watchful are vexed and pained when such noises alarm and disturb the sick? I wanted no explanation on this point; but what I told as extraordinary, and which (if true) I demand a philosophical explanation of, is the fact, that a dog, not accustomed to howl, went on two occasions to a certain spot, whither he was unaccustomed to resort; that he there continued howling for two days, and could not, by force or entreaty, be driven away, up to a certain period,—and that that period was found to coincide with the death of the individuals to whom he was attached: and, what was still more extraordinary, that the first death took place at a distance of 140 miles. Now, I hope Mr. B. will hit off, before the commencement of another series of lectures, a more satisfactory solution; and to keep his hand in, I beg he will unriddle the following, as *two instances* amongst *many* of the same kind I could adduce, of dogs having a power of knowing circumstances through the medium of some sense not cognizable by us. A poodle dog, belonging to two ladies of the name of P—re, in the county of Mayo, was equally attached to both; his sagacity was remarkable, and his actions denoted sense common and uncommon. Now, the ladies, his owners, used to take in turn the pleasurable relaxation of visiting amongst their friends; and in this way they ranged through a wide circle of acquaintances. The day either was to come home—no matter whether the time was fixed previously or not, or was known to those at home,—Poodle was seen to start forward to meet his coming mistress: and even suppose there were more roads than one by which she *might* return, the dog, with unerring certainty, was found to go forth on the very road the lady had taken.

The lady who has supplied me with the story of the *tender* goose gives the following narrative of a dog, which can be vouched for:—A gentleman of property had a mastiff of great size, very watchful, and altogether a fine, *intelligent* animal. Though often let out to range about, he was in general chained up during the day in a wooden house, constructed for his comfort and shelter. On a certain day, when let out, he was observed to attach himself particularly to his master; and when the servant, as usual, came to tie him up, he clung so to his master's feet, showed such anger when they attempted to force him away, and altogether was so

particular in his manner, that the gentleman desired him to be left as he was, and with him he continued the whole day; and when night came on, still he staid by him, and, on going towards his bed-room, the dog resolutely, and for the first time in his life, went up along with him, and rushing into the room, took refuge under the bed; from whence neither blows nor caresses could draw him. In the middle of the night a man burst into the room, and, dagger in hand, attempted to stab the sleeping gentleman; but the dog darted at the robber's neck, fastened his fangs in him, and so kept him down that his master had time to call for assistance and secure the ruffian, who turned out to be the coachman, and who afterwards confessed, that seeing his master receive a large sum of money, he and the groom conspired together to rob and murder him; and that they plotted their whole scheme leaning over the roof of the dog's house!!!

It is now time for me to have done—done, I say, for I have not finished; for though I have satisfactorily proved, at least to myself, that inferior animals have intellectuality, I have not shown how the mere intimate observation and study of their capabilities can make them more happy in themselves, or more useful to us. But I think that it may be *inferred*, without any extended process of reasoning, that the more we study the character of animals, the more we shall respect and cherish them. It is want of consideration, rather than absolute cruelty, that makes us inflict the wrongs we do. To this also tends the bad education which young persons receive—the vulgar errors they imbibe. I remember, when a boy of seven years old, squeezing a cat to death under a gate, in order to put to the test the philosophical theory of my father's stable-boy, who assured me that a cat had nine lives. What, I say, has perpetuated the tyranny of man over the inferior animals but bad education? The vicious trainings of the nursery, in the first instance—then the kitchen—then the stable-yard; and when Master Tom is grown in obstinacy, cruelty, and mischief—too bad to be borne at home—then comes a public school to case-harden the youth in all his tyrannical propensities; and so in due course he becomes a reckless man, hunting, shooting, fishing, cock-fighting, and in all his sports abusing the creatures of God.

Ladies who now hear me—mothers as you are, or may be, look to your nurseries; there are planted the first germs of cruelty. My mammy nurse set me the example of catching flies on the window, and tearing off their legs and wings; or, as it is better described as follows:—

"Who gave me a huge corking-pin,
That I might the cock-chaffer spin,
And laugh'd to see my childish grin?—
My Granny."

"Who put me on a donkey's back,
And gave me whip to lash and smack,
Till its poor bones did almost crack?—
My Granny."

But I shall say no more on this subject, except to recommend to your notice—and if this my lecture does no other good, it will do well in recommending to your perusal, and as it is not dear, to your purchase, a Treatise on the Rights of Animals, and Man's Obligation to treat them with Humanity, by our amiable townsman, Dr. Drummond, whose book on this subject, I can venture to say, is learnedly, feelingly, and persuasively written.

That the study of the habits of animals may enable us not only to domesticate many that are now wild, but also to improve the powers of those now in use, I think also may be shown. I am sure it will be found better to train a horse than to break him. In this respect I assume that the Bedouin Arab manages better than the Irish horse-breaker: the one makes his fleet courser his friend; the other, with the spur of whiskey in his head, and the iron ravel of another in his heel, extinguishes the spirit while he forms the gaits of the trembling creature he has subdued. I remember the first horse I ever had broken in. I was obliged to contract with the old ruffian (for want of better) I had to employ, to give him half a pint of raw whiskey as his *morning* before he

would condescend to mount the colt. But, ladies and gentlemen, I must cease;—allow me to do so with the observation, that man has not yet fulfilled his duties even towards the animals he has contrived to domesticate; that, in all his improvements, he has advanced but little in the *morale* of treating inferior animals; and I cannot but express the opinion that much has to be learned, and much practised, that may be conducive to *our* use and *their* happiness.

Surely I, who have seen bull-baiting and cock-fighting, and many other cruel and ferocious games discountenanced, and in a great measure disused, may anticipate a brighter day, when education, based upon the religion of our merciful Redeemer, will teach us to use, and not to abuse; when knowledge, true knowledge—knowledge founded upon the Gospel,—may teach us to treat kindly, considerately, inferior animals. I really do consider that there is much yet to be done for our benefit and their happiness; and benevolence, guided by experience, induction, and judgment, may achieve great things; and so, knowledge and humanity going hand in hand, and the love of God in Jesus Christ presiding over all our views, that happy millennial period will come when the inferior animals may stand in the same relation to man as they did to Adam before the fall, when the Sovereign of heaven pronounced *all* to be very good; and the figurative language of the prophet be almost realised, when he foretold that the most ferocious animals would be so tame and domesticated, that "a little child shall lead them;" and "they shall not hurt nor destroy any more in my holy mountain, for the earth shall be full of the knowledge of the Lord as the waters cover the sea."

VICISSITUDES.*

"This life is all chequered with pleasures and woes,
That chase one another like waves of the deep—
Each billow, as brightly or darkly it flows,
Reflecting our eyes as they sparkle or weep."—MOORE.

DURING my residence in —, a few years since, I had frequent occasion to cross the river which separates it from New York; and I seldom entered the cabin of one of the little steam-boats, without finding some subjects for speculation among the passengers. I was particularly struck with the appearance of a lady, whom I often met at an early hour in the morning. Her dress, which generally attracts a lady's notice first, was slightly outré in its character; she looked as if she might be an English-woman; and yet the shade of difference between her costume and that of others was so slight, as to be undefinable, though quite perceptible. But my eyes did not linger long on her dress, when it had once fallen on her exquisite face. It was not the beauty of which painters and poets dream, but a living and breathing loveliness, such as seldom greets the sight in this dreary world. Apparently about twenty-five years of age, her figure was small and symmetrical, her complexion of the purest white, her cheek coloured with the most delicate rose-tint, her mouth exquisitely chiselled, and her eyes of the deepest blue. Contrary to the prevailing fashion of the time, her dark hair was drawn back from her broad, white forehead, falling on her cheeks in long ringlets; and her small hat formed, as it were, the frame of this sweet picture. She was always alone, and appeared to be quite unacquainted with the people among whom she lived, for she never exchanged the slightest salutation with any one. My curiosity became so much excited, that I found myself noticing every trifling peculiarity in her appearance and manners. I soon found that she was by no means the child of wealth, for her dress, though always neat, was evidently indebted to her own hand for its attempt at fashion. Her dresses were not made by a *modiste*, nor were her bonnets imported from Paris. Her capes and handkerchiefs lacked that superabundance of French embroidery and Mechlin lace which ladies then affected; and, upon the whole, to the eye of one of the initiated, she had the appearance of a woman

* From the "Ladies' Companion;" a New-York Monthly Magazine.

who had more taste than fashion, more beauty than fortune, and more intellect than either. I would have given anything to discover who she could be. It was most tantalising to my curiosity to see her so often take a seat beside me, and sit in perfect silence, with her quiet, sweet face unlightened by a smile of recognition.

One morning I observed that she carried with her a small, faded-looking portfolio. This was a new subject of speculation. What did that portfolio inclose?—not music, for it was too small—perhaps prints—perhaps drawings. But my conjectures afforded no insight into the truth, and I was forced to see her turn one way, while I proceeded another, without learning what her portfolio had to do with her history. From this time, I never met her without it; and one cold morning in December, my curiosity seemed in a fair way of being gratified. She was wrapped in a large shawl, and as she was stepping out of the cabin door, her foot struck the sill, while, in striving to regain her balance, she dropped her portfolio. It had been imperfectly closed, and fell open on the floor. I stooped to pick it up, and saw it contained paintings in water-colours, of fruit, flowers, and small landscapes. She thanked me with a quiet smile as I replaced the pictures and handed her the book, and we again parted. From that time I saw her no more in the steam-boat.

I had long ceased to meet with her, and—but that her surpassing beauty had formed one of the loveliest pictures in the chambers of my imagery—should probably have forgotten her. One day, as I was entering Stewart's, a lady glided out of the door, and stepped into a splendid carriage, while a clerk handed in a small parcel, which, from the extreme politeness of his parting bow, I took to be of considerable value. A rich velvet cloak concealed the lady's figure, and a blond veil shaded her face; but the transient glimpse which I obtained convinced me that I had seen her before. Not long afterwards, I was visiting a collection of paintings, and, seated before a remarkably fine Magdalen, I scarcely noticed that some person had taken a seat beside me. At length I turned, and saw again the purple velvet cloak and veil, but the face was no longer concealed, and, to my surprise, I beheld the lady of the portfolio. There was no mistaking that countenance, but when I remembered the little straw bonnet and coarse shawl, I could scarcely believe I beheld the same individual. There was a half smile on her beautiful lips as she caught my eye; she probably guessed my thoughts, and turned toward me, as if half inclined to speak, but my companions coming up, she rose and proceeded to another part of the room. While I was still thinking of her, my husband approached, and introduced me to his old friend, Charles Willeston, of whom I had often heard him speak as a college friend. They had not met for several years, and had entirely lost sight of each other, when they thus accidentally met in the picture-gallery. After a few minutes' conversation, Mr. Willeston said, "You do not know that I have been as lucky as yourself, and among my other successes, have obtained a wife; perhaps Mrs. ——— will allow me to make her acquainted with Mrs. Willeston." So saying, he crossed the room, and immediately returned with the lady of the portfolio. I was so much surprised that I scarcely know how I received her. My first feeling was pleasure, my second, a strong impulse of curiosity. After a very agreeable conversation, we parted, with an understanding that I should call upon Mrs. Willeston the following day. My visit was the beginning of an intimacy which still exists, though an ocean rolls between us. I found her a light-hearted, joyous, contented creature, and learned from her own lips the history which had so long baffled my conjectures.

"My mother," said she, "was the youngest daughter of the Dean of ———, and the only one of a large family who remained unmarried at the death of her father. My grandfather, who had taken a second wife quite late in life, left his daughter entirely dependent on the will of her step-mother, with the exception of a small sum which she inherited in right of her mother. The widow was a woman of harsh and ambitious temper, who sought to extend her influence by the marriage of the Dean's daughter, so as to command success for her only son. My mother, who possessed a gentle

and quiet temper, together with good talents and extreme personal beauty, was by no means disposed to enter into her ambitious schemes. The dissimilarity of their views constantly gave rise to unpleasant scenes, until, at length, as a punishment, and in the hope that the monotony of her new home would give her a new zest for the gay world, my mother was sent to spend the summer with an old aunt, who resided in a remote village in the West of England. To my mother, the transition from the gaieties of London life to the quiet of a country village was indeed delightful. Wearied with a perpetual round of dissipation, disgusted with the frivolous pleasures of fashionable life, she had never been so happy since she left the nursery and school-room, as she was when occupying one corner of the little parlour in the old parsonage of Harefield. Her aunt, an old-fashioned body, who read her Bible, darned stockings, and made carpet-work, interfered but little in her pursuits; and her uncle, an old-world clergyman, who divided his time between sermon-writing and backgammon, troubled himself still less about her. Her uncle's library afforded many resources to a mind so contemplative as hers, and her skill in drawing enabled her to occupy many hours in sketching the picturesque beauties of the little village. Perhaps the visits of the young curate had some effect in making her contented with her seclusion; for it is very certain that the summons to return to the gay world was a most unwelcome one. She, however, obeyed it, and found her home rendered more uncomfortable than ever, by a project which her step-mother now entertained, of marrying her to a rich and gouty old lord. A series of persecutions followed her refusal to aid in this scheme; and she was finally sent back to Harefield, where she no longer hesitated to obey the dictates of her own heart. The poor curate, who had long loved her in secret, was soon her accepted lover, and in spite of the threats of outlawry from her family and friends, they were married.

"Totally ignorant of the value of money, because she had never known its want; unused to any kind of household occupations, my mother was little suited to the humble life she had chosen. But, with a willing heart and great energy of character, she set herself to the task she had undertaken, and, though several years elapsed before she had fully learned her duties, and though her health was broken down in the painful study, she persevered nobly to the end, and my father never had cause to repent his imprudent marriage. Her family, exasperated at what they deemed a low connexion, refused to hold any intercourse with her; they paid over to her her mother's legacy of five hundred pounds, and then cast her off for ever.

"During the first year of her married life, she was too happy to think of the future. Her uncle's house was a secure asylum from the evils of poverty, and notwithstanding her husband's paltry stipend of forty pounds a year, she felt no anxiety about pecuniary matters. But the death of her uncle soon deprived her of her chief reliance. The living passed into other hands; the new incumbent had his own friends to serve; a new curate was appointed, and my father was thrown upon the world penniless. It was under these circumstances that I was born. I have heard my mother narrate the story of their sufferings at that time, and the recital almost broke my heart. Imagine, if you can, the situation of two persons, brought up amid the refinements of taste and luxury, with talents cultivated to the highest degree, and feelings rendered doubly sensitive by habitual indulgence, now reduced to absolute want—destitute of the means to procure a morsel of bread. I cannot bear to dwell upon the particulars of their misery; suffice it to say, that my father was compelled to labour with his hands in the meanest of all occupations, in order to provide food for his perishing wife and child.

"In the midst of their distress, however, they were most unexpectedly relieved. An eccentric relative, who had quarrelled with all his immediate connexions, died, leaving a small but independent fortune to my father, whom he had not seen since he was a boy. Of course a new mode of life was immediately adopted. My parents, who never could learn the value of money, soon established themselves in a handsome house, richly furnished, and filled with

obsequious servants. Their equipage and plate were unexceptionable—their dinners exquisite—their balls splendid, and they consequently soon found themselves the centre of a circle of summer friends. This kind of life suited both my father and mother. Both were naturally indolent and luxurious in their habits; and the contrast between past privation and present abundance seemed to add new zest to their enjoyment. I was so young at the time of this change, that I retained no recollection of our poverty, and my life now seemed to pass like a fairy tale. Everything that affection could suggest, or wealth procure, ministered to my gratification. An education befitting a lady of the highest rank was bestowed on me. Teachers and governesses were multiplied to aid me in my progress, for my parents had resolved that I should outshine all the loftier scions of the old family stock. The only thing that saved me from being utterly spoiled, was the influence of my old nurse. She was a shrewd and kind-hearted Scotchwoman, who had been my earliest attendant. She had learned enough of our early circumstances to be aware of the total change in our present prospects; and she was too sensible, not to fear the future results of my parents' headlong career. I possessed, naturally, a most cheerful, happy temper, and this she endeavoured to strengthen by her judicious management, so as to fit me for any station I might hereafter be called to fill. I am indebted to nature for that happy mental vision which enables me always to look upon the bright side of life, but I think I owe to her the strength of mind which supported me in the midst of adversity and disappointment.

"I had reached my sixteenth year without ever having known a sorrow. My debut in the world of fashion was characterised by the most complete success; a crowd of admirers soon surrounded me; and I was becoming quite intoxicated with adulation, when I happily met with your husband's friend, Charles Willeston. He at first attracted my attention simply because he was an American; but there was a frankness of manner—a dignity of character, and a strength of principle in all he said and did, which quickly riveted my regard. He possessed a large estate in Virginia, and without instituting any inquiry as to my prospects, he offered me his hand, and was accepted. The time of our marriage was fixed, the bridesmaids selected, the preparations all in progress, when suddenly 'a change came o'er the spirit of our dream.' Willeston had inherited his estate from an old uncle, whose only son had left home many years before, and had never been heard of afterwards. The father vainly endeavoured to recover some tidings of the fugitive, but even to the last he retained a hope of his return, and when making his will, bequeathed his property to his nephew, to be delivered up to his son if ever he should be found. This seemed so improbable a thing, that Willeston regarded the property as his own, but in the midst of our bright anticipations he received news that the rightful claimant had returned. He was obliged immediately to leave England, and hasten home to investigate the affair. He found it to be too true. The prodigal son, broken down in health, and crushed in spirit, had wandered home. Whatever might have been his early vices, all now seemed merged in the absorbing one of avarice. Willeston unhesitatingly transferred the estate to his cousin, who was mean enough to demand the accounts of the income which had been consumed since his father's death. He was paid to the uttermost farthing, and Willeston wrote to me stating his poverty,—his determination to devote himself to his profession for a subsistence,—and relinquishing his claim upon my hand. The tone of his letter convinced me that, in giving me back the faith I had pledged, he had made a sacrifice of his happiness to his sense of duty; and I resolved, under all circumstances, to consider myself still plighted to him. This I wrote to him, and assured him that whenever he was ready to claim my hand, it should be his.

"My father was unwilling that I should do this, and strenuously urged upon my acceptance the proposals of another suitor. I heard him with surprise and indignation, but I did not then know all his motives. There had been some strange troubles between my father and mother, which I had not been allowed to share, and it was not until there was an execution in the house that I learned

my father was a bankrupt. All our splendour vanished in an instant. My father fled to America to avoid an arrest, and with the money raised by the sale of our jewels, my mother and myself were, soon after, enabled to join him. When we arrived in this country, I learned that Willeston was in Virginia, engaged in the practice of his profession. I wrote to him of our misfortunes, reiterated my promise to him, and besought him not to attempt to rejoin us till he could do so without detriment to himself.

"My father obtained a situation as assistant in a school, and I sought to establish myself as governess in a private family. I could tell you some droll stories of my life as a governess. My youthful appearance was a very great disadvantage to me, for few persons were willing to entrust their daughters to such a mere girl as I then seemed. However, I lived several years in that capacity in various families. One house I left, because I would not consent to wash and dress the little children, and sleep with the chambermaid; another, because the lady's brother became too fond of sharing his nieces' studies in the school-room; another, because it was matter of grave offence that I was mistaken for one of the family. Oh, if ever I write a book, it shall be the *Adventures of a Governess*."

I took the opportunity afforded me by the merry laugh which interrupted my new friend's tale, to ask her whether she never gave way to depression and low spirits, when compelled to encounter such degradation and absurdity. "Never, never," was her reply. "Hope has always been my attendant spirit, and she did not desert me even at that moment. It is true, there was a season when my heart almost broke under the accumulation of sorrow, and that was, when I looked upon the death-bed of my father. He died after an illness of several months, and we were left alone in a strange land. To crown our misfortunes, my mother was taken ill with a rheumatic fever, and I was obliged to strain every nerve to preserve her from the horrors of want. For change of air, I procured apartments in the village of —, and there we resided when I was accustomed to meet you on board of the steam-boat. My mother was then able to sit up, but she continued a helpless cripple, and my time was divided between the care of her and the labour that was required to keep us from starving. By my skill in drawing I was enabled to provide my mother with every comfort: it is true, my works were not of a very high order—fire-screens, card-racks, and such nicknacks, were all I was expected to adorn; but they sold well, and that was all I then sought.

"Now came another change, and I hope the last. Just when my health began to fail from constant exertion, I was rescued from all further care by the return of my lover. His cousin had sunk under the effects of early excesses, and Willeston was now heir-at-law to his princely fortune. On my twenty-fourth birth-day we were married. My infancy was wrapped in the garments of poverty, my childhood decked with the rich gauds of wealth, my youth folded in the coarse garb of humble industry, and my womanhood again displays the costly trappings of affluence. I am happier than I ever was before, but my contentment has never failed me. I have been satisfied with a simple meal in a poor cottage, and can say no more than that when I sit down to the richest viands in my own bright home. I love my husband most devotedly, and do most heartily enjoy the comforts and luxuries of his present station; but should another revolution of fortune's wheel place us again on the humble level of poverty, I think I should still find courage to endure and contentment to meet our lot."

Such was the story of my light-hearted friend, and as I listened, I felt that the wise man was right when he said, "A merry heart doeth good like a medicine."

PRECEDENCE.

A periodical writer, whose entertaining papers appeared about the middle of the last century, tells us of a lord-mayor's ball, that was thrown into great confusion by a dispute for precedence between a *watch-spring maker's* lady and the wife of a *watchcase-joiner*.

MORNING MEDITATIONS.

LET Taylor preach, upon a morning breezy,
How well to rise while night and larks are flying;
For my part, getting up seems not as easy
By half as lying.

What if the lark does carol in the sky,
Soaring beyond the sight to find him out—
Wherefore am I to rise at such a fly?—
I'm not a trout!

Talk not to me of bees and such like hums,
The smell of sweet herbs at the morning prime;—
Only lie long enough, and bed becomes
A bed of time.

To me Dan Phœbus and his care are naught,
His steeds that paw impatiently about;—
Let them enjoy, say I, as horses ought,
The first turn-out!

Light, beautiful the dewy meads appear,
Besprinkled by the rosy-finger'd girl;
What then—if I prefer my pillow beer
To early pearl?

My stomach is not ruled by other men's,
And grumbling for a reason, quaintly begs,
Wherefore should master rise before the hens
Have laid the eggs?

Why from a comfortable pillow start,
To see faint flushes in the east awaken;
A fig, say I, for any streaky part,
Excepting bacon!

An early riser Mr. Gray has drawn,
Who used to haste, the dewy grass among,
To meet the sun upon the upland lawn;—
Well—he died young!

With charwomen such early hours agree,
And sweeps that earn betimes their bite and sup;
But I'm no climbing boy, and need not be
All up—all up!

So here I'll lie, my morning calls deferring,
Till something nearer to the stroke of noon;
A man that's fond precociously of stirring
Must be a spoon!

T HOOD.

SIR HENRY SAVILLE.

Sir Henry Saville, who was Greek preceptor to Queen Elizabeth, and afterwards warden of Merton College and provost of Eton, appears to have been the first Englishman who distinguished himself as the editor of a considerable Greek work from an English press. This press was set up by himself at Eton; and after the labour of several years, he gave from it, in 1613, an edition of all Chrysostom's works, in eight vols. folio, with annotations by him and other learned conjoiners.—*Aikin*.

COST OF STEELE'S PERIWIG.

Old Richard Nutt, one of the first printers of the Tatler, used to say that Steele paid 50*l.* per annum to his barber; and that he never rode out on airing (which he often did) but in a black full-bottomed perwig, the price of one of which, at that time, nearly amounted to this sum.—*Drake*.

LINES

Said to have been found in Lord Byron's Bible.

Within this awful volume lies
The mystery of mysteries.
Oh! happiest they of human race,
To whom our God has given grace
To hear, to read, to fear, to pray,
To lift the latch, and force the way;
But better had they ne'er been born,
Who read to doubt, or read to scorn,

FIELDING AND STEELE.

"There was a great similitude," observes Lady Mary Wortley Montagu, "between the character of Henry Fielding and Sir Richard Steele. They both agreed in wanting money in spite of all their friends—and would have wanted it if their hereditary lands had been as extensive as their imagination; yet each of them was so formed for happiness, it is a pity he was not immortal!"

COMPLIMENT.

Fortune comes to you in the only manner in which you would give her a hearty welcome; she is brought by Virtue, and attended by Honour.—*Lyttelton to Chatham*.

GIBBON'S OBLIGATIONS TO THE MILITIA.

"My principal obligation to the Militia," says Gibbon, at this time a captain in the Hampshire regiment, "was the making me an Englishman and a soldier. In this peaceful service I imbibed the rudiments of the language and the science of tactics, which opened a new field of study and observation. The discipline and evolutions of a modern battalion gave me a clearer notion of the phalanx and the legion; and the captain of the Hampshire grenadiers (the reader may smile) has not been useless to the historian of the Roman Empire."

A DESIGN ON THE POPEDOM.

The plan which the elder Scaliger devised for the recovery of his ancient honours and possessions was somewhat curious. His son was accustomed to relate, that the reason of his father's great proficiency in logic and scholastic divinity was the design which he had at one time conceived of obtaining the popedom, in order that he might recover from the Venetians by force of arms his principality of Verona.—*Museum Criticum*.

SPENSER.

Spenser was learned in Latin and Greek, as well as in Italian; but either the fashion of the times, or some deficiency in his own taste, inclined him to prefer the modern to the ancient models. His genius was comprehensive and sublime, his style copious, his sense of harmony delicate; nothing seems to have been wanting to make him a poet of the highest rank but a more intimate acquaintance with the classic authors.—*Boat*.

A NOBLE LAUNDRESS.

The Countess of Richmond would often say, on condition the princes of Christendom would march against the Turks, she would willingly attend them, and be their laundress.—*Camden*.

TRANSLATORS OF THE BIBLE.

It is worthy of remark, that while the list of the translators of the authorised version of our Bible, of course, comprises all the English theologians of their time most eminent for learning, yet, although they were forty-seven in number, not a person occurs in the list (with the exception of Henry Saville, if the same with the provost of Eton,) whose name is recorded as a contributor to general literature.—*Aikin*.

DIRECT EVIDENCE.

There was an attempt formerly to restore the Strathallan title, when the following evidence was given of the death of the last Lord Strathallan:—An aged general, who was called to prove that Lord Strathallan had fallen at the battle of Culloden, in the year 1746, gave his evidence to that effect. A noble lord suggested to the Lord Chancellor (Thurlow) to ask the witness how he knew that Lord Strathallan fell at Culloden. The Lord Chancellor put the question, and the witness answered—"Because, at the battle of Culloden, I thrust my spontoon through the body of the Viscount Strathallan."

PIN-MONEY.

There is a very ancient tax in France for providing the queen with pins; whence the term of pin-money has been, undoubtedly, applied by us to that provision for married women with which the husband is not to interfere.

PRINTING.

When first the art of printing was discovered, one side only of a page was made use of; the expedient of impressing the other was not yet found out. Specimens of these early-printed books are in the library of the British Museum. Afterwards they thought of pasting the blank sides together, which made them appear like one leaf. It is singular that the Romans, who had stereotypes, or printing immovable types, with which they stamped their pottery, should have failed to apply the invention to their literary works.

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